

WHAT IS CLAIMED IS:

1 1. A recliner mechanism for adjusting the position of a seat back frame
2 assembly with respect to a seat base frame assembly, the recliner mechanism comprising:
3 a round sector member having a plurality of teeth located on an edge of the
4 round sector member, the round sector member being connected to at least one of the seat
5 back frame assembly and the seat base frame assembly;
6 a first pawl member having a notched edge portion located between a
7 proximal end and a distal end, the first pawl member being connected to the other of the
8 seat back frame assembly and the seat base frame assembly from the round sector
9 member;
10 a second pawl member having a notched edge portion located between a
11 proximal end and a distal end, wherein the proximal end of the first pawl member is
12 rotably connected to the proximal end of the second pawl member and the second pawl
13 member is connected to the other of the seat back frame assembly and the seat base frame
14 assembly from the round sector member; and
15 wherein the first and second pawl members are aligned with the round
16 sector member such that the notched edge portions of the first and second pawl members
17 engage the plurality of teeth of the round sector member.

1 2. The recliner mechanism of claim 1, wherein the round sector member is
2 connected to the seat base frame assembly and the first and second pawl members are
3 connected to the a seat back frame assembly.

1 3. The recliner mechanism of claim 1 wherein the notched edge portions of
2 the first and second pawl members include a plurality of varying shape teeth.

1 4. The recliner mechanism of claim 1 wherein the notched edge portions of
2 the first and second pawl members comprise:

3 a first portion having a plurality of low profile teeth;
4 a second portion having a plurality of normal profile teeth; and
5 a third portion having a plurality of angled profile teeth.

1 5. The recliner mechanism of claim 3 further comprising wherein the notched
2 edge portions of the first and second pawl members comprise:

3 a first portion having a plurality of low profile teeth;
4 a second portion having a plurality of normal profile teeth; and
5 a third portion having a plurality of angled profile teeth.

1 6. The recliner mechanism of claim 3 further comprising a means for moving
2 the distal ends of the first and second pawl members such that the notched edge portions
3 of the first and second pawl members are moved into and out of engagement with the
4 plurality of teeth on the sector member.

1 7. The recliner mechanism of claim 3 further comprising a first cam pin
2 member connected to the distal end of the first pawl member and a second cam pin
3 member connected to the distal end of the second pawl member, the first and second cam
4 pin members each having a first axis of rotation and a second axis of rotation offset from
5 the first axis of rotation such that rotation of the first and second cam pin members causes
6 the first and second pawl members to rotate in opposite directions about their proximal
7 ends.

1 8. The recliner mechanism of claim 7 wherein the first cam pin member and
2 the second cam pin member each have ends journaled in the seat back frame member.

1 9. The recliner mechanism of claim 7 wherein the first cam pin member has a
2 cam lobe having a constant radius about the second axis of rotation of the first cam pin
3 member, and the second cam pin member has a cam lobe having a constant radius about
4 the second axis of rotation of the second cam pin member.

1 10. The recliner mechanism of claim 9, wherein each cam lobe includes a
2 plurality of teeth located along the constant radius cam lobe for meshing with the plurality
3 of teeth of the other cam lobe such that rotation of one cam pin member will cause the
4 opposite rotation of the other cam pin member.

1 11. The recliner mechanism of claim 7 wherein the first cam pin member has a
2 cam lobe having a plurality of teeth located about the second axis of rotation of the first
3 cam pin member, and the second cam pin member has a cam lobe having a plurality of
4 teeth located about the second axis of rotation of the second cam pin member; and wherein
5 the plurality of teeth of the cam lobes mesh such that rotation of one cam pin member will
6 cause the opposite rotation of the other cam pin member whereby the first and second

7 pawl members rotate about their proximal ends in opposite directions when the one of the
8 first and second cam pin members is rotated.

1 12. The recliner mechanism of claim 7 further comprising a lever member
2 connected to one of the first and second cam pin members.

1 13. The recliner mechanism of claim 11 further comprising a lever member
2 connected to one of the first and second cam pin members.

1 14. The recliner mechanism of claim 11 further comprising a biased lever
2 member connected to one of the first and second cam pin members, wherein the lever
3 member is biased into a first position in which first and second pawl members engage the
4 sector member and the seat back frame assembly can not be rotated with respect to the seat
5 base frame assembly.

1 15. The recliner mechanism of claim 11 further comprising a lever member
2 connected to one of the first and second cam pin members, and a spring connected to the
3 lever member for biasing the lever member toward a first position in which first and
4 second pawl members engage the sector member and the seat back frame member can not
5 be rotated with respect to the seat base.

1 16. A recliner mechanism for adjusting the position of a seat back frame
2 assembly with respect to a seat base frame assembly, the recliner mechanism comprising:
3 a round sector member having a plurality of teeth located on an edge of the
4 round sector member;
5 a first pawl member having a notched edge portion located between a
6 proximal end and a distal end;
7 a first cam pin member having first and second axes of rotation, wherein
8 the first cam pin member is rotatably connected to the seat back frame assembly for
9 rotation about the first axis of rotation and is rotatably connected to the distal end of the
10 first pawl member;
11 a second pawl member having a notched edge portion located between a
12 proximal end and a distal end, wherein the proximal end of the first pawl member is
13 rotatably connected to the proximal end of the second pawl member and the second pawl

14 member is connected to the other of the seat back frame assembly and the seat base frame
15 assembly from the round sector member;

16 a second cam pin member having first and second axes of rotation, wherein
17 the second cam pin member is rotatably connected to the seat back frame assembly for
18 rotation about the first axis of rotation and is rotatably connected to the distal end of the
19 second pawl member;

20 wherein the first and second cam pin members are connected such that
21 rotation of the first and second cam pin members causes the first and second pawl
22 members to rotate in opposite directions about their proximal ends;

23 wherein the first and second pawl members are aligned with the round
24 sector member such that the notched edge portions of the first and second pawl members
25 engage the plurality of teeth of the round sector member.

1 17. The recliner mechanism of claim 15 wherein the round sector member
2 includes a passage, the recliner mechanism further comprising:

3 a pivot pin fixed to the seat back frame assembly; and

4 a deformable bushing located in the passage in the round sector member,
5 the deformable bushing having a first passage having the pivot pin located therein.

1 18. The recliner mechanism of claim 15 wherein the round sector member is
2 connected to the seat base frame assembly and further includes a centrally located passage,
3 the recliner mechanism further comprising a pivot pin fixed to the seat back frame
4 assembly and passing through the passage in the round sector member.